## <u>AMENDMENTS</u>

## IN THE CLAIMS:

Please amend the claims as follows:

Please cancel Claims 1-16.

Please add new Claims 17-46 as follows:

- 17. (new) A method for treating Alzheimer's disease in a subject in need of treatment thereof, the method comprising administering to the subject a therapeutic amount of an amidine compound, or a pharmaceutically acceptable salt thereof.
- 18. (new) The method of Claim 17, wherein the amidine comprises a compound of formula (I):

$$A \longrightarrow X \longrightarrow (CH_2)_n \longrightarrow X \longrightarrow B$$

$$R_3 \longrightarrow R_3$$

$$R_3 \longrightarrow R_3$$

$$R_3 \longrightarrow R_3$$

wherein:

A and B are each independently selected from the group consisting of H, loweralkyl, oxyalkyl, nitro, amino, aminoalkyl, halo, hydroxy, carboxy, and compounds of formula (i):

$$\begin{array}{c}
R_{1}-N \\
R_{1}-N \\
R_{2}
\end{array}$$
(i)

subject to the proviso that at least one of A and B is a compound of formula (i);

 $R_1$  and  $R_2$  are each independently selected from the group consisting of H, loweralkyl, oxyalkyl, alkoxyalkyl, cycloalkyl, aryl, hydroxyalkyl, aminoalkyl, and alkylaminoalkyl;

or two  $R_1$  groups on the same compound of formula (i) together represent — $(CH_2)_m$ — wherein m is 2, 3, or 4;

R<sub>3</sub> is H, loweralkyl, oxyalkyl, alkoxyalkyl, hydroxyalkyl, cycloalkyl, aryl, aminoalkyl, alkylaminoalkyl, or halogen;

n is an integer from 2 to 6; and

X is O, NH, or S;

or a pharmaceutically acceptable salt thereof.

19. (new) The method of Claim 18 wherein the amidine comprises a compound selected from the group consisting of:

HN  

$$H_2N$$
 $O \leftarrow (CH_2)_n O \rightarrow NH$ 
 $NH_2$ ;

 $NH_2$ 

wherein n is an integer from 2 to 6; or a pharmaceutically acceptable salt thereof.

20. (new) The method of Claim 17, wherein the amidine comprises a compound of formula (II):

$$\begin{array}{c|c} A & & & B \\ \hline & N & & N \\ \hline & NH & & NH \\ \end{array} \hspace{1cm} (II)$$

wherein:

A and B are each independently selected from the group consisting of H, loweralkyl, oxyalkyl, nitro, amino, aminoalkyl, halo, hydroxy, carboxy, and compounds of formula (i):

subject to the proviso that at least one of A and B is a compound of formula (i);

 $R_1$  and  $R_2$  are each independently selected from the group consisting of H, loweralkyl, oxyalkyl, alkoxyalkyl, cycloalkyl, aryl, hydroxyalkyl, aminoalkyl, and alkylaminoalkyl;

or two  $R_1$  groups on the same compound of formula (i) together represent —  $(CH_2)_m$ — wherein m is 2, 3, or 4;

X is a linear or branched, saturated or unsaturated  $C_1$ - $C_{12}$  alkyl comprising up to 4 double bonds; or X is a heterocyclic aromatic group selected from the group consisting of:

wherein

R<sub>6</sub>, R<sub>7</sub>, and R<sub>8</sub> are each independently selected from the group consisting of H, loweralkyl, halogen, oxyalkyl, oxyaryl, or oxyarylalkyl;

 $R_{9}$  is hydrogen, loweralkyl, hydroxy, aminoalkyl, or alkylaminoalkyl;

or a pharmaceutically acceptable salt thereof.

21. (new) The method of Claim 20, wherein the amidine comprises a compound selected from the group consisting of:

$$HN = NH_2$$
 $H_2N$ 
 $NH$ 
 $H$ 
 $N$ 
 $N$ 
 $N$ 
 $N$ 

wherein n is an integer from 1 to 12; or a pharmaceutically acceptable salt thereof.

22. (new) The method of Claim 17, wherein the amidine comprises a compound of formula (III):

wherein:

A and B are each independently selected from the group consisting of H, loweralkyl, oxyalkyl, nitro, amino, aminoalkyl, halo, hydroxy, carboxy, and compounds of formula (i):

$$\begin{array}{c} R_{1} N \\ \searrow \\ R_{1} N \\ R_{2} \end{array}$$
 (i)

subject to the proviso that at least one of A and B is a compound of formula (i);

 $R_1$  and  $R_2$  are each independently selected from the group consisting of H, loweralkyl, oxyalkyl, alkoxyalkyl, cycloalkyl, aryl, hydroxyalkyl, aminoalkyl and alkylaminoalkyl;

or two  $R_1$  groups on the same compound of formula (i) together represent — $(CH_2)_m$ — wherein m is 2, 3, or 4;

or two  $R_1$  groups on the same compound of formula (i) together represent

wherein R<sub>5</sub> is

$$\begin{array}{c}
R_{\uparrow} N \\
\downarrow \\
R_{\uparrow} N \\
\downarrow \\
R_{z}
\end{array}$$
(i)

R<sub>3</sub> is H, loweralkyl, oxyalkyl, alkoxyalkyl, hydroxyalkyl, cycloalkyl, aryl, aminoalkyl, alkylaminoalkyl, or halogen;

n is an integer from 0 to 2; and

 $\,\,X\,$  is  $\,CH_2O\,$  or a heterocyclic aromatic group selected from the group consisting of:

wherein:

R<sub>6</sub>, R<sub>7</sub>, and R<sub>8</sub> are each independently selected from the group consisting of H, loweralkyl, halogen, oxyalkyl, oxyaryl, or oxyarylalkyl;

R<sub>9</sub> is hydrogen, loweralkyl, hydroxy, aminoalkyl, or alkylaminoalkyl; or a pharmaceutically acceptable salt thereof.

22. (new) The method of Claim 21 wherein the amidine comprises a compound selected from the group consisting of:

or a pharmaceutically acceptable salt thereof.

24. (new) The method of Claim 17, wherein the amidine comprises a compound of formula (IV):

wherein:

A and B are each independently selected from the group consisting of H, loweralkyl, oxyalkyl, nitro, amino, aminoalkyl, halo, hydroxy, carboxy, and compounds of formula (i):

subject to the proviso that at least one of A and B is a compound of formula (i);

 $R_1$  and  $R_2$  are each independently selected from the group consisting of H, loweralkyl, oxyalkyl, alkoxyalkyl, cycloalkyl, aryl, hydroxyalkyl, aminoalkyl, and alkylaminoalkyl;

or two  $R_1$  groups on the same compound of formula (i) together represent —  $(CH_2)_m$ — wherein m is 2, 3, or 4;

or two  $R_1$  groups on the same compound of formula (i) together represent

wherein R<sub>5</sub> is

$$R_{\uparrow}N$$
 (i)  $R_{\uparrow}N$   $R_{2}$  ; and

R<sub>3</sub> is H, loweralkyl, oxyalkyl, alkoxyalkyl, hydroxyalkyl, cycloalkyl, aryl, aminoalkyl, alkylaminoalkyl, or halogen; or a pharmaceutically acceptable salt thereof.

25. (new) The method of Claim 24 wherein the amidine comprises a compound selected from the group consisting of:

or a pharmaceutically acceptable salt thereof.

26. (new) The method of Claim 17, wherein the amidine comprises a compound of formula (V):

$$\begin{array}{c|c}
R_4 & B \\
R_3 & R_1 \\
O & R_2
\end{array}$$
(V)

wherein:

A and B are each independently selected from the group consisting of H, loweralkyl, oxyalkyl, nitro, amino, aminoalkyl, halo, hydroxy, carboxy, and compounds of formula (ii):

$$R_{\overline{5}}N$$
 $R_{\overline{5}}N$ 
 $R_{\overline{5}}N$ 
 $R_{\overline{5}}$ 

subject to the proviso that at least one of A and B is a compound of formula (ii);

 $R_1$  and  $R_2$  are each independently selected from the group consisting of H, loweralkyl, aryl, alkylaryl, aminoaryl, halogen, oxyalkyl, oxyaryl, or oxyarylalkyl;

 $R_3$  and  $R_4$  are each independently selected from the group consisting of H, loweralkyl, oxyalkyl, alkylaryl, aryl, oxyaryl, aminoalkyl, aminoaryl, or halogen;

each  $R_5$  is independently selected from the group consisting of H, loweralkyl, alkoxyalkyl, hydroxyalkyl, aminoalkyl, alkylaminoalkyl, cycloalkyl, aryl, or alkylaryl;

or two  $R_5$  groups together represent  $C_2$  to  $C_{10}$  alkyl, hydroxyalkyl, or alkylene; and

R<sub>6</sub> is H, hydroxy, loweralkyl, alkoxyalkyl, hydroxyalkyl, aminoalkyl, alkylamino, alkylaminoalkyl, cycloalkyl, hydroxycycloalkyl, alkoxycycloalkyl, aryl, and alkylaryl;

or a pharmaceutically acceptable salt thereof.

27. (new) The method of Claim 17, wherein the amidine comprises a compound of formula (VI):

wherein:

A and B are each independently selected from the group consisting of H, loweralkyl, oxyalkyl, nitro, amino, aminoalkyl, halo, hydroxy, carboxy, and compounds of formula (i):

subject to the proviso that at least one of A and B is a compound of formula (i);

 $R_1$  and  $R_2$  are each independently selected from the group consisting of H, loweralkyl, oxyalkyl, alkoxyalkyl, cycloalkyl, aryl, hydroxyalkyl, aminoalkyl, and alkylaminoalkyl;

or two  $R_1$  groups on the same compound of formula (i) together represent — $(CH_2)_m$ — wherein m is 2, 3, or 4;

R<sub>3</sub> is H, loweralkyl, oxyalkyl, alkoxyalkyl, hydroxyalkyl, cycloalkyl, aryl, aminoalkyl, alkylaminoalkyl, or halogen;

or two  $R_1$  groups on the same compound of formula (i) together represent

wherein R<sub>5</sub> is

X is O, S, or NH;

n is an integer from 1 to 8; or a pharmaceutically acceptable salt thereof.

28. (new) The method of Claim 27, wherein the amidine comprises a compound selected from the group consisting of:

$$HN$$
 $H_2N$ 
 $CH_2$ 
 $CH$ 

or a pharmaceutically acceptable salt thereof.

- 29. (new) The method of Claim 17 wherein the amidine comprises a bis-benzamidine.
- 30. (new) The method of Claim 17 wherein the amidine comprises a compound having the following structure:

or a pharmaceutically acceptable salt thereof.

- 31. (new) The method of Claim 17, wherein the subject is afflicted with Alzheimer's disease.
- 32. (new) The method of Claim 17, wherein the subject is at risk of developing Alzheimer's disease, the treatment is a prophylactic treatment, and the amidine compound is administered in a prophylactically effective amount.
- 33. (new) A method for treating diabetes in a subject in need of treatment thereof, the method comprising administering to the subject a therapeutic amount of an amidine compound, or a pharmaceutically acceptable salt thereof.

34. (new) The method of Claim 33, wherein the amidine comprises a compound of formula (I):

$$A \longrightarrow X \longrightarrow (CH_2)_n \longrightarrow X \longrightarrow B$$
 (I)

wherein:

A and B are each independently selected from the group consisting of H, loweralkyl, oxyalkyl, nitro, amino, aminoalkyl, halo, hydroxy, carboxy, and compounds of formula (i):

subject to the proviso that at least one of A and B is a compound of formula (i);

 $R_1$  and  $R_2$  are each independently selected from the group consisting of H, loweralkyl, oxyalkyl, alkoxyalkyl, cycloalkyl, aryl, hydroxyalkyl, aminoalkyl, and alkylaminoalkyl;

or two  $R_1$  groups on the same compound of formula (i) together represent — $(CH_2)_m$ — wherein m is 2, 3, or 4;

R<sub>3</sub> is H, loweralkyl, oxyalkyl, alkoxyalkyl, hydroxyalkyl, cycloalkyl, aryl, aminoalkyl, alkylaminoalkyl, or halogen;

n is an integer from 2 to 6; and

X is O, NH, or S;

or a pharmaceutically acceptable salt thereof.

35. (new) The method of Claim 34 wherein the amidine comprises a compound selected from the group consisting of:

wherein n is an integer from 2 to 6; or a pharmaceutically acceptable salt thereof.

36. (new) The method of Claim 33, wherein the amidine comprises a compound of formula (II):

wherein:

A and B are each independently selected from the group consisting of H, loweralkyl, oxyalkyl, nitro, amino, aminoalkyl, halo, hydroxy, carboxy, and compounds of formula (i):

$$\begin{array}{c}
R_{\uparrow} N \\
\downarrow \\
R_{\uparrow} N \\
\downarrow \\
R_{2}
\end{array}$$

subject to the proviso that at least one of A and B is a compound of formula (i);

 $R_1$  and  $R_2$  are each independently selected from the group consisting of H, loweralkyl, oxyalkyl, alkoxyalkyl, cycloalkyl, aryl, hydroxyalkyl, aminoalkyl, and alkylaminoalkyl;

or two  $R_1$  groups on the same compound of formula (i) together represent —  $(CH_2)_m$ — wherein m is 2, 3, or 4;

X is a linear or branched, saturated or unsaturated  $C_1$ - $C_{12}$  alkyl comprising up to 4 double bonds; or X is a heterocyclic aromatic group selected from the group consisting of:

wherein

R<sub>6</sub>, R<sub>7</sub>, and R<sub>8</sub> are each independently selected from the group consisting of H, loweralkyl, halogen, oxyalkyl, oxyaryl, or oxyarylalkyl;

R<sub>9</sub> is hydrogen, loweralkyl, hydroxy, aminoalkyl, or alkylaminoalkyl; or a pharmaceutically acceptable salt thereof.

37. (new) The method of Claim 36, wherein the amidine comprises a compound selected from the group consisting of:

$$\begin{array}{c} \text{NH}_2 \\ \text{HN} \\ \text{H} \\ \text{H}$$

wherein n is an integer from 1 to 12; or a pharmaceutically acceptable salt thereof.

38. (new) The method of Claim 33, wherein the amidine comprises a compound of formula (III):

$$R_3$$
  $(CH_2)_n$   $R_3$   $(III)$ 

wherein:

A and B are each independently selected from the group consisting of H, loweralkyl, oxyalkyl, nitro, amino, aminoalkyl, halo, hydroxy, carboxy, and compounds of formula (i):

subject to the proviso that at least one of A and B is a compound of formula (i);

 $R_1$  and  $R_2$  are each independently selected from the group consisting of H, loweralkyl, oxyalkyl, alkoxyalkyl, cycloalkyl, aryl, hydroxyalkyl, aminoalkyl and alkylaminoalkyl;

or two  $R_1$  groups on the same compound of formula (i) together represent —  $(CH_2)_m$ — wherein m is 2, 3, or 4;

or two  $\mathsf{R}_1$  groups on the same compound of formula (i) together represent

wherein R<sub>5</sub> is

$$\begin{array}{c}
R_{1} N \\
R_{1} N \\
R_{2}
\end{array}$$
(i)

R<sub>3</sub> is H, loweralkyl, oxyalkyl, alkoxyalkyl, hydroxyalkyl, cycloalkyl, aryl, aminoalkyl, alkylaminoalkyl, or halogen;

n is an integer from 0 to 2; and

X is CH<sub>2</sub>O or a heterocyclic aromatic group selected from the group consisting of:

wherein:

R<sub>6</sub>, R<sub>7</sub>, and R<sub>8</sub> are each independently selected from the group consisting of H, loweralkyl, halogen, oxyalkyl, oxyaryl, or oxyarylalkyl;

R<sub>9</sub> is hydrogen, loweralkyl, hydroxy, aminoalkyl, or alkylaminoalkyl; or a pharmaceutically acceptable salt thereof.

39. (new) The method of Claim 38 wherein the amidine comprises a compound selected from the group consisting of:

$$\begin{array}{c} \text{HN} \\ \text{H}_2\text{N} \\ \end{array}, \\ \text{HN} \\ \text{S} \\ \text{NH}_2 \\ \vdots \\ \text{NH}_2 \\ \vdots \\ \text{NH}_2 \\ \vdots \\ \end{array}$$

$$\begin{array}{c} HN \\ H_2N \\ \end{array}$$

$$\begin{array}{c} NH \\ NH_2 \\ \end{array}$$

$$\begin{array}{c} NH \\ NH_2 \\ \end{array}$$

$$\begin{array}{c} NH \\ NH_2 \\ \end{array}$$

$$\begin{array}{c} NH \\ NH \\ \end{array}$$

or a pharmaceutically acceptable salt thereof.

40. (new) The method of Claim 33, wherein the amidine comprises a compound of formula (IV):

wherein:

A and B are each independently selected from the group consisting of H, loweralkyl, oxyalkyl, nitro, amino, aminoalkyl, halo, hydroxy, carboxy, and compounds of formula (i):

subject to the proviso that at least one of A and B is a compound of formula (i);

R<sub>1</sub> and R<sub>2</sub> are each independently selected from the group consisting of H, loweralkyl, oxyalkyl, alkoxyalkyl, cycloalkyl, aryl, hydroxyalkyl, aminoalkyl, and alkylaminoalkyl;

or two  $R_1$  groups on the same compound of formula (i) together represent — $(CH_2)_m$ — wherein m is 2, 3, or 4;

or two  $R_1$  groups on the same compound of formula (i) together represent

wherein R5 is

$$R_{1}N$$
 (i)  $R_{1}N$   $R_{2}$  ; and

R<sub>3</sub> is H, loweralkyl, oxyalkyl, alkoxyalkyl, hydroxyalkyl, cycloalkyl, aryl, aminoalkyl, alkylaminoalkyl, or halogen; or a pharmaceutically acceptable salt thereof.

40. (new) The method of Claim 39 wherein the amidine comprises a compound selected from the group consisting of:

or a pharmaceutically acceptable salt thereof.

41. (new) The method of Claim 33, wherein the amidine comprises a compound of formula (V):

wherein:

A and B are each independently selected from the group consisting of H, loweralkyl, oxyalkyl, nitro, amino, aminoalkyl, halo, hydroxy, carboxy, and compounds of formula (ii):

$$\begin{array}{c}
R_{5} N \\
R_{5} N \\
R_{6}
\end{array}$$
(ii)

subject to the proviso that at least one of A and B is a compound of formula (ii);

 $R_1$  and  $R_2$  are each independently selected from the group consisting of H, loweralkyl, aryl, alkylaryl, aminoaryl, halogen, oxyalkyl, oxyaryl, or oxyarylalkyl;

R<sub>3</sub> and R<sub>4</sub> are each independently selected from the group consisting of H, loweralkyl, oxyalkyl, alkylaryl, aryl, oxyaryl, aminoalkyl, aminoaryl, or halogen;

each  $R_5$  is independently selected from the group consisting of H, loweralkyl, alkoxyalkyl, hydroxyalkyl, aminoalkyl, alkylaminoalkyl, cycloalkyl, aryl, or alkylaryl;

or two  $R_5$  groups together represent  $C_2$  to  $C_{10}$  alkyl, hydroxyalkyl, or alkylene; and

R<sub>6</sub> is H, hydroxy, loweralkyl, alkoxyalkyl, hydroxyalkyl, aminoalkyl, alkylamino, alkylaminoalkyl, cycloalkyl, hydroxycycloalkyl, alkoxycycloalkyl, aryl, and alkylaryl;

or a pharmaceutically acceptable salt thereof.

42. (new) The method of Claim 33, wherein the amidine comprises a compound of formula (VI):

$$A \longrightarrow (CH_2)_n X \longrightarrow B$$

$$R_3 \longrightarrow R_3$$
(VI)

wherein:

A and B are each independently selected from the group consisting of H, loweralkyl, oxyalkyl, nitro, amino, aminoalkyl, halo, hydroxy, carboxy, and compounds of formula (i):

$$\begin{array}{ccc}
R_{\uparrow} N & (i) \\
R_{\uparrow} N & \\
R_{2} & \end{array}$$

subject to the proviso that at least one of A and B is a compound of formula (i);

 $R_1$  and  $R_2$  are each independently selected from the group consisting of H, loweralkyl, oxyalkyl, alkoxyalkyl, cycloalkyl, aryl, hydroxyalkyl, aminoalkyl, and alkylaminoalkyl;

or two  $R_1$  groups on the same compound of formula (i) together represent — $(CH_2)_m$ — wherein m is 2, 3, or 4;

R<sub>3</sub> is H, loweralkyl, oxyalkyl, alkoxyalkyl, hydroxyalkyl, cycloalkyl, aryl, aminoalkyl, alkylaminoalkyl, or halogen;

or two  $R_1$  groups on the same compound of formula (i) together represent

wherein R5 is

$$\begin{array}{c}
R_{\uparrow} N \\
\downarrow \\
R_{\uparrow} N \\
\downarrow \\
R_{z}
\end{array} (i)$$

X is O, S, or NH;

n is an integer from 1 to 8; or a pharmaceutically acceptable salt thereof.

44. (new) The method of Claim 43, wherein the amidine comprises a compound selected from the group consisting of:

$$\begin{array}{c} \text{HN} \\ \text{H}_2 \text{N} \end{array} \hspace{-0.5cm} \begin{array}{c} \text{CH}_2 \text{--} \text{O} \\ \end{array} \hspace{-0.5cm} \begin{array}{c} \text{NH} \\ \text{NH}_2 \\ \end{array} \hspace{-0.5cm} , \\ \end{array}$$

$$CH_{2}-O \longrightarrow NH$$

$$NH_{2};$$

$$HN$$

$$H_{2}N$$

$$CH_{2}-O \longrightarrow O-CH_{3}$$

$$HN$$

$$H_{2}N$$

$$H_{2}N$$

$$H_{2}N$$

$$H_{2}N$$

$$H_{2}N$$

$$H_{2}N$$

$$H_{2}N$$

or a pharmaceutically acceptable salt thereof.

- 45. (new) The method of Claim 33 wherein the amidine comprises a bis-benzamidine.
- 46. (new) The method of Claim 33 wherein the amidine comprises a compound having the following structure:

or a pharmaceutically acceptable salt thereof.

- 47. (new) The method of Claim 33, wherein the subject is afflicted with diabetes.
- 48. (new) The method of Claim 33, wherein the subject is at risk of developing diabetes, the treatment is a prophylactic treatment, and the amidine compound is administered in a prophylactically effective amount.